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ABSTRACT

New VIEW (The New Vocational Education for Women Program) is an educational experiment undertaken by the Foothill-De Anza Community College district, designed to help mature women entering the labor force prepare for, and acquire, responsible careers. Objectives of the program are to raise each student's level of confidence and competence, prepare each for employment in technical careers, and to promote positive attitudes of leaders in business, government, and education toward women's career aspirations. Program participants are assigned to one-year paid internships in technical fields at NASA/Ames Research Center for 20 hours per week. In addition, they take at least two academic courses each quarter which relate to their academic career goals, and participate in individual and group counseling, testing, and evaluation activities. during the final quarter of the program, group meetings focus on career planning and job-finding strategies. The initial New VIEW group of 19 women were selected for their technical backgrounds. eleven had bachelor degrees and one had a masters degree. Average age was 34. Plans are underway to extend the New VIEW model to women with backgrounds in the liberal arts and social sciences. (NHM)

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NEW VIEW

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SANTA CLARA COUNTY, CALIFORNIA

2

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The Office of Technical Education
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Margaret T. Shoenhair

February, 1976

WHAT IS NEW VIEW?

New VIEW [The New Vocational Education for Women Program] is an educational experiment designed to help mature women prepare for, and acquire, responsible careers.

Extensive paid internship experience, counseling and academic coursework – tailored to each student's needs – are the key elements of the New VIEW experience.

The objectives of the New VIEW Program are to:

1) Raise each student's level of confidence and competence
2) Prepare each for employment in technical and professional careers
3) Promote positive attitudes of leaders in business, industry, government and education toward women's career aspirations.

There are hundreds of thousands of adult American women – in and out of the labor force – who seek challenging, rewarding careers. Our country needs their abilities and energies – and many of them need work experience, college training and psychological support if they are to contribute as much as they can to our economy and society

The New VIEW staff, students and sponsors are documenting the program's design, procedures and results in detail. An advisory committee of experts on women's education and employment provides advice and support; dissemination and replication are important concerns of this group. Although the first group of

nineteen women have not yet completed their year in New VIEW, four have accepted professional positions in data processing and engineering, at an average salary of $1,000/month, and others are considering employment offers. Fifteen more women joined New VIEW in January, 1976, and a third group of approximately fifteen is scheduled to start April 5, 1976.

The program's sponsors, the Carnegie Corporation of New York, the NASA/Ames Research Center in Mountain View, California, and the Foothill-De Anza Community College District in Santa Clara County, California, expect that many other colleges and employers will copy the New VIEW model.

WHO PARTICIPATES IN NEW VIEW?

Nineteen women were selected for the initial New VIEW group; they began their internships and counseling, and continued their academic programs in April, 1975.

Selection criteria were outlined as follows in the Program Brochure:

Current De Anza and Foothill College women students may apply for admission to the New VIEW Program if they have:

1. At least a 3.0 GPA on 12 or more quarter units at De Anza or Foothill. (Preference will be given to students who have completed 45 or more quarter units of college study.)

2. Career commitment as indicated by references, volunteer or paid work experience, and educational pattern.

3. Commitment to: (a) Participate fully in the program for one calendar year; (b) Intern at NASA/Ames for 20 hours/ week; (c) Take at least two academic courses each quarter relating to their academic career goals, and (d) Participate fully in continual counseling, testing, research, and evaluation activities.

4. United States citizenship.

Applicants were advised that admission was dependent on the availability of appropriate internship stations, and that NASA supervisors would interview them after screening by the staff.

The first group was intentionally heterogeneous.

- Eleven had BA/BS degrees, one also had an MA
- Their previous degrees were in liberal arts, social sciences, English. math and science
- Their average age was 34 (the range was 22 to 47)
- All but one had been married; 75% were still married
- The youngest of their children was six months old, but many had grown children
- Two were receiving public support
- Three were Asian, one Black, the rest Caucasian

These generalizations only begin to describe the New VIEW population. Understanding the program requires exploration of each participant's history and experience, because every woman is unique. Brief sketches of representative students from Group 1 are presented here to indicate the range of individual situations and the impact the program is having.

> "I cannot begin to measure what I have learned. If I were to cram five or so years together, it might approach the intensity of these past nine months...What have I learned? I have learned to discriminate...to make evaluations when exactly enough information is understood...I have learned to accomplish much in little time...I have learned to focus my attention... Yesterday I was exhausted. Today I am renewed with a sense of accomplishment, excited about what I have done."

After nine months, this is the way T.M. summarized her New VIEW experience. T. had left Texas one course short of a BA in psychology because she knew she would not be employable in that field. In California she worked as a secretary with a technical organization where she was exposed to engineering, and T. enrolled at Foothill

to explore her new interest. Before New VIEW, she'd never seen any of the equipment, but by the end of the summer T. was the day-to-day coordinator of an engineering research lab doing experiments involving heat pipes and cryogenics. Alternate energy sources are the focus of the research she plans to pursue after earning advanced engineering degrees.

M.I. will earn her AS in Technical Illustration at De Anza College in June, 1976, and plans to seek a permanent position as a drafting technician. Her supervisors at the Ames Research Center, where she has been a drafting intern in the world's largest wind tunnel for testing aircraft, wish she could work for them after she completes the New VIEW Program. An instructor recommended M.I. as "among the best and most assiduous students I have had the pleasure to teach"; in her third Quarterly Report she reported that she had gained "confidence and assurance in my ability – and the knowledge that I will succeed in what I attempt..." Her supervisor told one of the New VIEW directors that he did not think another student could be found to match M. Her husband of 21 years and their three teenagers also think she's unique – and they're proud of her academic and internship accomplishments.

Two women have left the New VIEW Program without meeting its goals – one because of academic problems, the other because her understanding of her goals changed. Although A.W. thought she wanted a technical career [her only previous employment had been as a social worker when she first graduated from college], her performance in math and data processing courses at Foothill, and her responsibilities with a basic research group at the Research Center left her dissatisfied. Her supervisor and colleagues repeatedly assured A. and the staff that they were pleased with her progress, but during her second quarter she resigned from the program. She wrote that she "continued to be most excited about the program's concept" but that she needed a full-time

income, and that she no longer wanted a technical career. At Christmas time she reported that she had sold her home, relocated with her children – and was happily working as a secretary for the Directors of an agency serving young people. A.W. credits the program with helping her gain knowledge about herself as well as the real demands of the world of work.

For three years after she graduated from high school, R.M. worked in the local Sears credit office, filing forms, answering the phones and handling other clerical work. As she and her family moved around – her husband is a career petty officer in the Navy – R. always tried to get more education. Through New VIEW, she has been preparing for a career in procurement. Whether she works for the government or in private industry, R. knows that experienced, capable buyers are in great demand and that a four-year degree is not essential in this field. Most important, she has the skills and confidence now to know she won't be limited to low skill work all her life. Describing her internship, R. told a newspaper reporter, "(My associates at Ames) have accepted me right from the beginning. In my department, we have so much work that the fact you're a student is forgotten and that has forced me to learn."

M.L. spent 14 frustrating months looking for a job when she moved to California with her husband, though she had a BA in Astronomy from Wellesley and a masters degree in Library Science. All she could find was a job as a statistical clerk for $2.50/hour. After six months in the New VIEW Program interning in an aeronautical engineering branch [while studying a third subject, electronics, at Foothill College], M. accepted full-time employment as an engineer and enrolled at Stanford University in a NASA-sponsored Master's in Science of Electrical Engineering program. The confidence and focus she gained through internship assignments such as designing an on-board computerized locator for small planes will be the keys to M.'s future career success.

The Christmas holidays of 1975 were eventful for M.G. – she accepted her first full-time job in twenty-three years. M. has a BA in Mathematics and worked on early computers in the late 1950's, but she needed recent, local work experience to supplement her outstanding record in De Anza's data processing program. M.'s internship on a time-sharing computer system, with the self-confidence she gained through New VIEW, was the key to her new job – working with a team providing data services to the public school systems of a five-county area. Now M. knows that she can support herself and her children through respected, responsible work.

These sketches only illustrate the New VIEW experience, because each woman is unique. And soon there will be reports on the second and third groups of students to share.

It is too early to assess the long-range impact on the program on the participants, the colleges, and the community. But the students and staff have proven that carefully-designed internship-coursework-counseling packages can produce dramatic gains in confidence, skills, and employability.

* * *

Little is known about the Group II students, who just entered the program in January, 1976, but some comparisons with Group I are possible.

- Three have MA degrees (in German, English and Environmental Education), all but two have BA/BS degrees
- Their average age is 36
- Most of them have been studying business and data processing at Foothill and De Anza; six are assigned to data processing internships
- One is Black, the rest Caucasian

Their fields are similar to those of Group I; Table 1 on Page 11 presents the internship assignments for both groups.

WHAT EXPERIENCES ARE INVOLVED IN THE NEW VIEW PROGRAM?

As they move through the program, New VIEW women follow a carefully integrated set of activities designed to enhance their self-esteem as well as skills. The directors, with the assistance of the counselor and on-the-job supervisors, give each participant sustained personal attention and support, while fostering individual growth and peer interaction.

The several stages of the program are summarized briefly here, followed by more detailed discussions of internship assignments, counseling and academic coursework.

Application. After supplying an application form, personal statement, references and transcripts, each qualified woman is interviewed by the directors and counselor. Those with the background and interest appropriate to an available internship who are willing and able to commit themselves to the program are referred to the Research Center to meet prospective supervisors.

Preparation. An orientation, including security clearance and tour of the Center, is held before a group begins its first quarter. Responsibilities are explained and psychological tests are administered. The program counselor meets with each participant, and the women confirm their schedules and arrangements with the Ames personnel with whom they will work.

Quarter I. In addition to interning twenty hours/week, students take at least two classes and attend periodic seminars. The learning they will acquire on-the-job is detailed in a written agreement.

Quarter I (cont.) The directors and counselor visit each student at her learning station, making sure that she is comfortable with the duties and personnel involved in her assignment and that she has significant educational opportunities. At the end of the term, the directors and Ames supervisor evaluate the student's accomplishments in writing; these evaluations, and her own written self-assessment, are reviewed with each participant by the directors. The New VIEW women also meet weekly with the counselor as a career/life planning group.

Quarters II and III. These quarters continue the pattern set in the first term, though group meetings are less frequent; during Summer Quarter students intern full-time and take only one class. Again, written reports are prepared by all parties. Placement into career professional and technical employment may occur during these quarters, should the student receive a desirable offer.

Quarter IV. Job-seeking preparations and strategies are the focus of group meetings. The directors and counselor actively assist with placement. Final evaluations and concluding psychological test data are gathered, and students review their total New VIEW experience in individual sessions with the directors. An informal ceremony is held for each group, during which certificates are awarded which recognize each woman's accomplishments.

Follow-up. The staff continues to assist all women who have been associated with the program, including any who left the program early, and those students who have not acquired employment at the conclusion of the program, with counseling and placement assistance. Follow-up information on all participants will be gathered annually for five years.

INTERNSHIPS. The table below summarizes the internship assignments of the New VIEW students. These assignments were selected from many possible learning stations described for the program by Ames personnel. Students selected for the program interviewed for the positions the staff considered most appropriate for them. If a congenial match was not established with one interview, additional interviews were arranged for both students and supervisors. One-to-one matching was attempted to avoid referring many more applicants to the Center for interviews that could be placed.

	Students	
Type of Assignment	Group I	Group II
Data Processing	6	6
Business/Accounting	4	3
Chemistry	3	1
Electronics/Engineering	2	0
Graphics	1	1
Drafting	1	0
Junior Research Scientist	1	0
Data Analyst	1	1
Lab Technician	0	2
Technical Writer	0	1
Computer Librarian*	1	0
	20	15

*Joined Group I, June, 1975

TABLE 1. New VIEW Assignments

Both student and supervisor satisfaction with internship assignments has been very high. At the end of their first quarter, 8 of the Group I students rated their internship assignments "excellent," another 10 felt they were "above average" and only one woman considered her station "average." Similar assessments were reported on the second and third Quarterly Reports. Assignments can be changed by mutual agreement; one woman from Group I was reassigned several months into the program, into a work area more closely related to her data processing goal.

Internship responsibilities are defined cooperatively by students, job advisors and the New VIEW directors, and specified on student learning agreements which incorporate measurable learning objectives. Examples of the kind of responsibilities New VIEW students were given include:

"The student shall..."

- ... assume primary responsibility for conducting heat pipe life tests...including writing a detailed test procedure, operating equipment to achieve test conditions, collecting and processing test data
- ... learn to operate and maintain tunable lasers by August 29, 1975
- ... process actions requiring competition and NCP (non-competitive purchasing) – $250 to $5K...process actions $5K to $10K in addition
- ... prepare a training document for use of the IMP-16 Microprocessor
- ... complete her portion of the Pioneer Venus Gas Chromatograph Software Program for Ground Support Equipment
- ... be able to independently compute diatomic wave functions with the MCSCF & CI computer program
- ... complete a total design project, which includes preliminary and detail design, liaison with the research engineer and the shops, and the responsibility to deliver a satisfactory piece of test hardware on schedule

'The student shall..." (cont.)

... be able to perform polymer processes such as laminating, molding, coating, vacuum bag molding, and vacuum impregnation

... have modified an existing general purpose plotting program to operate on the CDC 7600 and the plotter

Students are paid a modest hourly stipend for their internship time; some child care assistance is also available.

COUNSELING. Regular group and individual counseling is an integral part of New VIEW. A professional counselor from one of the District's colleges, who is assigned one-third time to New VIEW, provides academic counseling as soon as each woman is selected for the program, and continues to individually advise each about classes, degree requirements, transfer to senior colleges, and related matters.

The counselor visits students "on-site", so that she knows each internship setting. At the request of one or more students or the directors, or as she feels it appropriate, she provides additional personal counseling for individuals and small groups.

During the first quarter, all students meet with the program counselor in weekly group sessions. These group meetings focus on career/life planning and personal growth. As the students become well acquainted, they provide each other with a peer support network and a comprehensive picture of the Research Center and various career opportunities.

Regular group meetings are held throughout the year, and during their last quarter in the program, students are assisted with career planning and job-finding strategies. They write resumes, practice interviewing, and share tips with one another. Guests from industry are invited to meet with the group, and the staff and Ames

supervisors help the participants develop contacts which may lead to employment.

All counseling activities are intended to help students gain confidence and dignity. Many women enter the program fearful of the world of work and unable to assess their abilities accurately; they soon flourish as they realize that they are highly respected and productive.

CLASSES. Every New VIEW woman's academic program is different. She may study toward a certificate of proficiency or an associate degree, or take courses she selects, with the counselor's advice, as relevant to her career goals. Some students are taking review courses in math or statistics; others are acquiring data processing skills. A few students with extensive academic backgrounds are doing special projects with individual instructors. Each woman takes two academic courses during each of three terms; during Summer quarters when the students intern forty hours/week, only one course is required.

Course credit is awarded in cooperative work experience for learning which occurs through the internships. In addition to fulfilling their internship agreements, New VIEW participants attend five hours of seminars a quarter as part of the work experience program. Every term over forty different sessions are held at De Anza, Foothill and Ames on topics chosen to broaden all work experience students' perspectives. Several are on human relations on the job, others on buying, real estate, the state of the economy, taxes, personal development and similar topics. Some of these seminars are opportunities for New VIEW students to learn about the projects on which other interns work from the scientists and researchers who designed them.

WHAT HAVE BEEN NEW VIEW'S RESULTS?

The most dramatic result of New VIEW has been the growth demonstrated by participants. When she accepted permanent employment as a Scientific Programmer, one woman wrote:

> "My husband was never able to understand my lack of confidence and so is quite pleased with the changes I have undergone in the past months. And I am delighted to realize that a job is not something that must be tolerated in order to earn money, but rather something that can be stimulating and very fulfilling."

Similar feelings are expressed in all students' December Quarterly Reports. At the conclusion of the first term, many of the women had been somewhat unsure of the responsibilities they had undertaken; these doubts vanished by Christmas to be replaced by confident assertions that they can have successful careers.

Supervisors on-the-job have contributed greatly to this remarkable growth, and they are highly positive in their evaluations of the New VIEW women. The table on the following page summarizes their quarterly assessments, which are discussed with each student and become part of her permanent file.

During their first quarter, five students received all "excellent" marks; another seven were rated "excellent" on all but one or two items. During the following quarters seven and eight students were given all "excellent" ratings.

In their remarks to the directors, several people mentioned that the quality of the students' work was much higher than they had anticipated, and supervisors spoke frequently of the women's personal characteristics, such as motivation, eagerness to learn, ability to get along with people, and persistence. The participants far surpass the Ames supervisors' expectations of a community college program for mature women re-entering the labor force.

Quarter	1	2	3
Evaluation	*E/S/P/N	E/S/P/N	E/S/P/N
WORK QUALITY			
Quality of work	9/9/0/0	11/7/0/0	11/4/0/0
Judgment in handling responsibilities	11/7/0/0	13/5/0/0	12/3/0/0
Ability to follow instructions	12/6/0/0	14/4/0/0	12/3/0/0
Proficiency in planning & organizing	10/7/0/1	12/6/0/0	10/5/0/0
Compliance with instructions & rules	15/3/0/0	15/3/0/0	13/2/0/0
Attendance–punctuality & regularity	17/1/0/0	14/4/0/0	13/1/1/0
Total	74/33/0/1	72/29/0/0	71/18/1/0
ATTITUDES			
Interest in meeting objectives	17/1/0/0	18/0/0/0	14/1/0/0
Courtesy and rapport	16/2/0/0	18/0/0/0	14/1/0/0
Ability to work with others	15/3/0/0	17/1/0/0	12/3/0/0
Total	48/6/0/0	53/1/0/0	40/5/0/0
PERSONAL QUALITIES			
Dress	14/4/0/0	14/4/0/0	14/1/0/0
Cleanliness and neatness	15/3/0/0	15/3/0/0	14/1/0/0
Total	29/7/0/0	29/7/0/0	28/2/0/0

* E = Excellent
S = Satisfactory
P = Poor
N= Not Applicable

TABLE 2. Supervisors' Evaluations of Group I

The final test of New VIEW – career placement and persistence – is barely underway, and Group I does not complete its program year for another six weeks. A few students plan to continue their education before seeking employment, but most are eager to find good positions, and are much encouraged by the success members of their group have already had. Four women have accepted positions in engineering and data processing paying an average of $12,000 annually.

WHAT WILL BE NEW VIEW'S FUTURE?

SHARING THE MODEL. The New VIEW model and project data are being shared widely through brochures, media publicity, professional journal articles, reports and presentations to employers and colleges interested in the program. Local newspapers have run human-interest stories on women in Group I, and the CBS radio affiliate in San Francisco interviewed one of the directors for a brief feature. The program brochure has been widely circulated in the local community, particularly to women's groups and employers; it has also been mailed to some participants of the League for Innovation in the Community College, of which Foothill-De Anza District is a charter member. The January American Vocational Journal included a short discussion of the program, and readers have inquired for further information.

About sixty educators attended the first public showing of a slide-show on the program in Denver in October, 1975, during the national meeting of the Society for Field Experience Education; other showings have since been held on the West Coast. Colleagues from several California colleges and from La Guardia Community College in New York have expressed interest in starting similar programs.

Exploratory discussions have been held with personnel of several major West Coast firms about adopting the New VIEW model, and more meetings and other dissemination efforts are planned during the second pilot year of the project.

EXPANDING THE MODEL. Two major local expansion efforts are envisioned. Accommodating some of the many women educated in the liberal arts and social sciences who need an internship program is a major concern. The present New VIEW program serves only women with technical backgrounds, while the majority of women in their thirties, forties and fifties with career aspirations have non-technical educational backgrounds and seek "people work." Efforts to obtain funding to pilot a New VIEW program for this population are now underway.

Involving other companies and agencies in New VIEW is another goal. NASA has received important results from its involvement in the program; it is hoped that many other organizations will follow its example. As a recruiting process New VIEW can be an unmatched source of outstanding employees; moreover, it provides a way for employers to increase the pool of well-trained women professionals and technicians while receiving highly-motivated service from interns.

The New VIEW staff and students look forward to assisting other colleges around the country that might adopt the New VIEW model. The basic design can be adapted to meet the needs of many different populations, institutions, and local economies.

Many people seek combinations of academic and work experience in preparation for challenging careers, and educators and employers can work together to provide them.

For further information, write:

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